

**REMARKS/ARGUMENTS**

In this Action, made final, the Examiner rejected claims 1-7 under 35 U.S.C. §101 as directed to non-statutory subject matter. The Examiner opined that “[t]he claims do not recite a practical application by producing a physical transformation or producing a useful, concrete, and tangible result.”

In response, applicants have added system and product claims to the application, and have amended claim 1 to explicitly recite each step as being performed by a computer. In all other respects, this rejection is respectfully traversed.

As to usefulness, the application clearly sets forth why the invention is useful. The invention is directed to “identifying among a list of texts those texts whose edit distance from a search string is less than a threshold value,” as stated in the independent claim 1. The specification identifies several contexts in which the need to identify among a set of strings (called a text list) those that are similar to a string (called a search string) occurs: a system to locate the medical history of an individual (page 2, line 18, to page 3, line 2), deduplication in order to detect duplicate benefit payments or to aggregate data about individuals (page 3, lines 8-13) and identifying similar DNA sequences in different individuals or species (page 3, lines 14-19). The claimed invention itself is useful because it reduces computation and increases speed (page 7, lines 16-17).

While the claimed invention is the focus of the assessment of utility, the utility of the invention need not be recited in the claims. Rather, it is sufficient if the specification explains the utility of the invention, as is done in this application. See MPEP §2107.02 [II] (“...the examiner should review the specification to determine if there are any statements asserting that the claimed invention is useful for any particular purpose. A complete disclosure should include a statement which identifies a specific and substantive utility for the invention.” (emphasis added))

A “concrete result” is one that is repeatable and predictable. MPEP §2106 [IV][c][2][(2)][c]. The claimed invention produces both repeatable and predictable results. Given the starting conditions, its result can be predicted. And, repeatedly given the same starting conditions, it repeatedly produces the same result.

As to tangible result, the independent claim 1 explicitly recites “generating an indication that the edit distance of the present computation text from the search string is less than the threshold value,” in one case, and “generating an indication that the edit distance of the present computation text from the search string is not less than the threshold value,” in the other case. The two cases cover all eventualities; thus, an indication is always generated. This indication is of “real world” value in whatever use the invention is put to, whether it be one of the contexts described in the specification (and pointed out above) or any other context. For example, it is a valuable real world result to get an indication of whether or not two biological sequences are similar enough to produce proteins that may have similar function, which is one of the described possible uses of the invention.

The Examiner further opined that “[t]he claims do not recite a practical application by producing a physical transformation...” The Examiner is mistaken; no such transformation is required under the law. The tangible requirement does not necessarily mean that a claim must either be tied to a particular machine or apparatus or must operate to change articles or materials to a different state or thing. MPEP §2106 [IV][c][2][(2)][b]. A physical transformation is not required. That a physical transformation is required is a misunderstanding of the law. AT&T Corp. v. Excel Communications Inc. (Fed. Cir. 1999) 172 F. 3d 1352, 1358-1359, 50 USPQ 2d 1447, 1452.

For all these reasons, it should be evident that the claims satisfy the statutory and judicial requirements for patentable subject matter.

Applicants therefore request that the Section 101 rejection of their claims be withdrawn.

The Examiner next rejected claims 1 and 3 under 35 U.S.C. §112, second paragraph, for indefiniteness. In response, applicants have amended the claims to cure the points of indefiniteness identified by the Examiner. Applicants therefore request that the Section 112, second paragraph, rejection of claims 1 and 3 as amended be withdrawn.

Finally, the Examiner rejected claims 1-2 and 6-7 under 35 U.S.C. §103(a) over U.S. pat. no. 6,556,984 (Zien) in view of U.S. pub. no. 2002/007286 (Tomikawa et al.). This rejection is respectfully traversed.

The Examiner is mistaken at least in asserting that Zien and/or Tomikawa et al. teach “stopping the computing in response to computing a column whose minimum value of edit distance is at least the threshold value.” An illustrative implementation of this step is described on page 7, lines 11-14.

There is no corresponding disclosure in the applied references. At col. 4, line 48, to col. 5, line 11, Zien discloses computing the grid (“tableau”). Nowhere does Zien disclose, teach, or suggest that any cells (“entries”) of the table need not be computed. Rather, Zien teaches building the tableau “until the full problem is finally solved.”

As to Tomikawa et al., they do teach pruning a branch of a search tree if a threshold is passed, as the Examiner alleges. The search tree of Tomikawa et al. corresponds to the tree data structure of Zien that is shown in Figs. 3A and 3B and described at col. 6, lines 4 et seq., and not to the tableau of Zien that is shown in Figs. 2A and 2B and described at col. 4, line 48, to col. 6, line 3. Pruning the tree eliminates the pruned strings from the set of strings in Zien whose cost needs to be computed by using the tableau, but it does not eliminate any of the tableau entries from being computed for any string that is not pruned. Thus, the tree pruning of Tomikawa et al. corresponds to step (h) of applicants’ claim 1, but not to step (d).

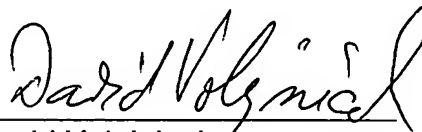
Since neither Zien nor Tomikawa et al. disclose, teach, or suggest at least step (d) of claim 1, their combined teachings likewise fail to do so. The combined teachings of the references therefore do not render unpatentable the claimed invention. Applicants therefore request that the Section 103(a) rejection of their claims 1-2 and 6-7 as amended be withdrawn.

The Examiner's rejections having been properly responded to and overcome, applicants suggest that the application is now in condition for allowance. Applicants therefore request that the application be reconsidered and thereafter be passed to issue.

Although the foregoing is believed to be dispositive of all issues in the application, if the Examiner should deem that a telephone interview would advance the prosecution, he is invited to call applicants' attorney at the telephone number listed below.

Respectfully submitted,

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